

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

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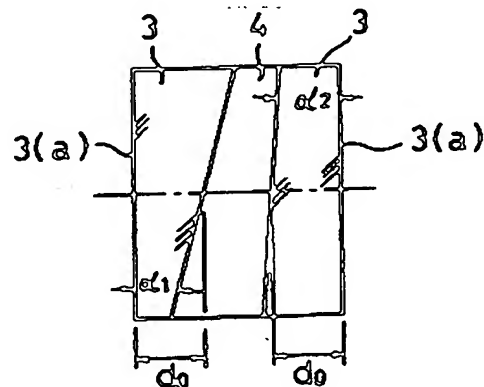
APPLICATION DATE : 18-05-84  
APPLICATION NUMBER : 59098846

APPLICANT : OLYMPUS OPTICAL CO LTD;

INVENTOR : OOKAWA KANEYASU;

INT.CL. : G02B 5/30

TITLE : DEPOLARIZATION PLATE



ABSTRACT : PURPOSE: To permit easy conversion of incident light to a non-polarized state without decreasing the quantity of light to the incident light having all polarization characteristics by disposing plural wedge-shaped transparent plates consisting of a material having double refractions which shifting successively the crystal axes thereof by  $45^\circ$ .

CONSTITUTION: The wedge crystal plates 3, 3 have the face 3a perpendicular to one crystal axis except the crystal optical axis. The central wall thickness thereof is  $d_0$  and the wedge angle is  $\alpha_1$ ,  $\alpha_2$ . The orientation of the crystal optical axis is made coincident with the orientation of the wedge angle. The plates 3, 3 are so positioned that the slopes thereof face each other via the wedge-shaped transparent plate 4 made of ordinary optical glass having the same refractive index as the refractive index of a rock crystal in the state of shifting the crystal optical axis by  $45^\circ$ . Three pieces of such plates are disposed in the joined state and the faces 3a, 3a exposed to the outside are paralleled. The transmitted light which is not polarized with all incident light is obtd. by setting the wedge angles  $\alpha_1$ ,  $\alpha_2$  at which the change rate of the sectional direction changed with respect to the wedge direction of the rock crystal plate are increased with respect to the optical wavelength  $\lambda$  with the above-mentioned constitution.

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